

REMARKS

Claims 22-80 are pending in the present application. Applicant has reviewed the rejections set forth in the Office Action mailed June 1, 2007, and respectfully traverse all grounds for reasons that follow.

Claim Rejections – 35 USC § 103(a)

Claims 22-28 and 30-31 are rejected under 35 USC § 103(a) as being unpatentable over Bradley (U.S. Patent No. 6,996,158) (hereinafter “Bradley”) in view of Shohara (U.S. Patent No. 6,463,266) (hereinafter “Shohara”). Claim 29 is rejected under 35 USC § 103(a) as being unpatentable over Bradley in view of Shohara, further in view of Müller (U.S. Patent No. 6,845,238) (hereinafter “Müller”). These rejections are respectfully traversed and reconsideration is requested.

Independent claim 22 recites an apparatus comprising a first receiver to receive a first signal from a first carrier, the first receiver comprising a first frequency tracking loop to obtain frequency tracking information relating to the first signal and a second receiver to receive a second signal from a second carrier, the second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal.

The Examiner concedes that Bradley differs from the claimed invention in that the signal detection apparatus disclosed by Bradley does not teach or suggest a second frequency tracking loop. Hence, the Examiner cites Shohara as disclosing a frequency tracking loop.

Referring initially to col. 1, lines 58-67, Bradley discloses a method/apparatus for detecting whether differently formatted signals are present to avoid the costly method of powering up portions of hardware to detect such differently formatted signals. Referring now to the Abstract in Bradley, Bradley’s method/apparatus provides a CDMA receiver that detects the presence of differently formatted signals, *e.g.*, GSM signals, by programming a CDMA searcher co-processor to detect the differently formatted signals. Once differently formatted signals are detected, specific hardware/software may be implemented to receive and process these signals. Because Bradley is concerned with operating according to the CDMA standard and merely detecting the presence of differently formatted signals, Bradley only needs one frequency tracking loop to correct frequency errors in the CDMA receiver.

Bradley’s method/apparatus differs from Applicant’s claims at least in that Applicant’s claimed subject matter is concerned with correcting frequency errors in signals from two types of carriers, as provided by a first receiver comprising a first frequency tracking loop to obtain frequency estimation information relating to a first signal and a second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to a second signal. Using the claimed apparatus during handover from one carrier to another, the wireless communication device (WCD) operates in the next

carrier mode with a reduced frequency error immediately after the handoff. See Applicant's specification, paragraph [0029]. In contrast, Bradley only attempts to detect that another carrier mode is present. Furthermore, Bradley does not teach obtaining frequency estimation information relating to the second signal, as the Examiner asserts. Referring to col. 11, lines 64-66 in Bradley, Bradley teaches that a signal may be detected, but does not teach or suggest that frequency error information related to the second signal is received.

Shohara discloses a method/apparatus for improving transmitter and receiver frequency control in a track mode by using complex digital phase rotators in a automatic frequency control (AFC) loop. See col. 5, lines 28-54. The AFC loop corrects for frequency errors in both downlink and uplink transmission using these rotators. Shohara discloses only a single AFC loop which processes two signals (receiver frequency and transmitter frequency) in the communication between a local and remote unit operating according to the GSM standard. Because the communication in Shohara is between a local and remote unit using the same standard, there is only one carrier (local unit) involved, as compared with claim 22 which requires both a first and second carrier. As such, Shohara does not disclose two signals from two separate carriers, as required by claim 22.

Thus, even assuming the cited references can properly be combined, the Examiner has failed to establish that the combination teaches or suggests an apparatus comprising a first receiver to receive a first signal from a first carrier, the first receiver comprising a first frequency tracking loop to obtain frequency tracking information relating to the first signal and a second receiver to receive a second signal from a second carrier, the second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal.

For at least this reason, it is respectfully submitted that independent claim 22 patentably distinguishes over the prior art, and the rejection thereof should be withdrawn. The pending dependent claims inherit the patentability of their respective independent claims and, as a result, also patentably distinguish over the prior art.

Furthermore, with respect to the Examiner's rejection of claim 29 as being unpatentable over the combination of Bradley, Shohara, and Müller, Müller does not overcome any of the deficiencies noted with respect to Bradley and Shohara. Hence, even if combined with Bradley and Shohara, the combination of Bradley and Shohara with Müller would not make obvious the claims of the present invention. Therefore, the rejection of claim 29 should be reconsidered and withdrawn.

Accordingly, reconsideration and withdrawal of the rejection of claims 22-31 under 35 U.S.C. §103 are respectfully requested.

Reinstatement of Previously Canceled Claims

Upon due consideration, by this amendment, Applicant has reinstated previously canceled claims 1-21 and 32-45 and relabeled them as new claims 48-80, respectively. New claims 46-80 are submitted to be patentable over the prior art, for the same reasons claims 22-31 are submitted to be patentable. Entry of new claims 46-80 is respectfully requested.

CONCLUSION

In light of the remarks above, this application should be considered in condition for allowance and the case passed to issue. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 170026 and please credit any excess fees to such deposit account.

Respectfully submitted,

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